

Release notes for ENDF/B Development photoat-027\_Co\_000  
evaluation

**ENDF**  
**B-VII**.dev

October 13, 2016

- checkr Warnings:

1. A previous error halted parsing of the current section  
*MAT=2700, MF= 1, MT=451 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=2700, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO      175
```

- checkr Errors:

1. A variable is outside the allowed ENDF range  
*MAT=2700, MF= 1, MT=451 (0): Variable range*

```
ERROR(S) FOUND IN MAT=2700, MF= 1, MT=451
MOD =      3 OUT OF RANGE      0 -      1      RECORD NUMBER      153
```

2. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=501 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=501
SECTION 23/501 NOT IN DIRECTORY      RECORD NUMBER      177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=502 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=502
SECTION 23/502 NOT IN DIRECTORY      RECORD NUMBER      832
```

4. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=504 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=504
SECTION 23/504 NOT IN DIRECTORY      RECORD NUMBER      1132
```

5. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=515 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=515
SECTION 23/515 NOT IN DIRECTORY      RECORD NUMBER      1173
```

6. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=516 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=516
SECTION 23/516 NOT IN DIRECTORY      RECORD NUMBER      1206
```

7. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=517 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=517  
SECTION 23/517 NOT IN DIRECTORY RECORD NUMBER 1257

8. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=522 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=522  
SECTION 23/522 NOT IN DIRECTORY RECORD NUMBER 1296

9. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=534 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=534  
SECTION 23/534 NOT IN DIRECTORY RECORD NUMBER 1583

10. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=535 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=535  
SECTION 23/535 NOT IN DIRECTORY RECORD NUMBER 1606

11. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=536 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=536  
SECTION 23/536 NOT IN DIRECTORY RECORD NUMBER 1635

12. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=537 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=537  
SECTION 23/537 NOT IN DIRECTORY RECORD NUMBER 1674

13. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=538 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=538  
SECTION 23/538 NOT IN DIRECTORY RECORD NUMBER 1713

14. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=539 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=539  
SECTION 23/539 NOT IN DIRECTORY RECORD NUMBER 1747

15. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=540 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=540  
SECTION 23/540 NOT IN DIRECTORY RECORD NUMBER 1795

16. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=541 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=541  
SECTION 23/541 NOT IN DIRECTORY RECORD NUMBER 1843

17. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=542 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=542  
SECTION 23/542 NOT IN DIRECTORY RECORD NUMBER 1893

18. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=23, MT=543 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=23, MT=543  
SECTION 23/543 NOT IN DIRECTORY RECORD NUMBER 1943

19. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=27, MT=502 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=27, MT=502  
SECTION 27/502 NOT IN DIRECTORY RECORD NUMBER 2017

20. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=27, MT=504 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=27, MT=504  
SECTION 27/504 NOT IN DIRECTORY RECORD NUMBER 2071

21. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=27, MT=505 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=27, MT=505  
SECTION 27/505 NOT IN DIRECTORY RECORD NUMBER 2126

22. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=2700, MF=27, MT=506 (0): Directory (b)*

ERROR(S) FOUND IN MAT=2700, MF=27, MT=506  
SECTION 27/506 NOT IN DIRECTORY RECORD NUMBER 2244

• fudge-4.0 Warnings:

- generic warning message  
*reaction label 0: Co + gamma [coherent] / Product: gamma (Error # 0): Warning*

WARNING: coherentScattering is not a valid distribution component for 2-body reaction

2. FIXME: Generic fudge unimplemented message  
*reaction label 0: Co + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)*

WARNING: Checking not yet implemented for pointwise type data

3. generic warning message  
*reaction label 1: Co + gamma [incoherent] / Product: gamma (Error # 0): Warning*

WARNING: incoherentScattering is not a valid distribution component for 2-body reaction

4. FIXME: Generic fudge unimplemented message  
*reaction label 1: Co + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)*

WARNING: Checking not yet implemented for piecewise type data

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule  
*summedReaction label 14: total (Error # 0): Sumrule*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule  
*summedReaction label 16: photoelectric absorption (Error # 0): Sumrule*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.86%

• fudge-4.0 Errors:

1. Calculated and tabulated thresholds don't agree  
*reaction label 0: Co + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

2. 2-body reaction not in center-of-mass frame  
*reaction label 0: Co + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM*

WARNING: 2-body reaction not in center-of-mass frame!

3. Calculated and tabulated thresholds don't agree  
*reaction label 1: Co + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

4. 2-body reaction not in center-of-mass frame  
*reaction label 1: Co + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM*

WARNING: 2-body reaction not in center-of-mass frame!

5. Energy range of data set does not match cross section range  
*reaction label 1: Co + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)*  
  
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
6. Calculated and tabulated thresholds don't agree  
*reaction label 2: e- + e+ + Co [electron field] / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
7. Calculated and tabulated thresholds don't agree  
*reaction label 3: e- + e+ + Co [nuclear field] / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
8. Calculated and tabulated thresholds don't agree  
*reaction label 4: e- + Co1s1/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7680.7 eV!
9. Calculated and tabulated thresholds don't agree  
*reaction label 5: e- + Co2s1/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 922.95 eV!
10. Calculated and tabulated thresholds don't agree  
*reaction label 6: e- + Co2p1/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 807.54 eV!
11. Calculated and tabulated thresholds don't agree  
*reaction label 7: e- + Co2p3/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 792.29 eV!
12. Calculated and tabulated thresholds don't agree  
*reaction label 8: e- + Co3s1/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 109.69 eV!
13. Calculated and tabulated thresholds don't agree  
*reaction label 9: e- + Co3p1/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 74.17 eV!
14. Calculated and tabulated thresholds don't agree  
*reaction label 10: e- + Co3p3/2 / Cross section: (Error # 0): Threshold mismatch*  
  
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 72.26000000000001 eV!
15. Calculated and tabulated thresholds don't agree  
*reaction label 11: e- + Co3d3/2 / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.93 eV!

16. Calculated and tabulated thresholds don't agree  
*reaction label 12:  $e^- + Co3d5/2$  / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.72 eV!

17. Calculated and tabulated thresholds don't agree  
*reaction label 13:  $e^- + Co4s1/2$  / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.81 eV!

18. Calculated and tabulated thresholds don't agree  
*summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

19. Calculated and tabulated thresholds don't agree  
*summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!

20. Calculated and tabulated thresholds don't agree  
*summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch*

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.81 eV!